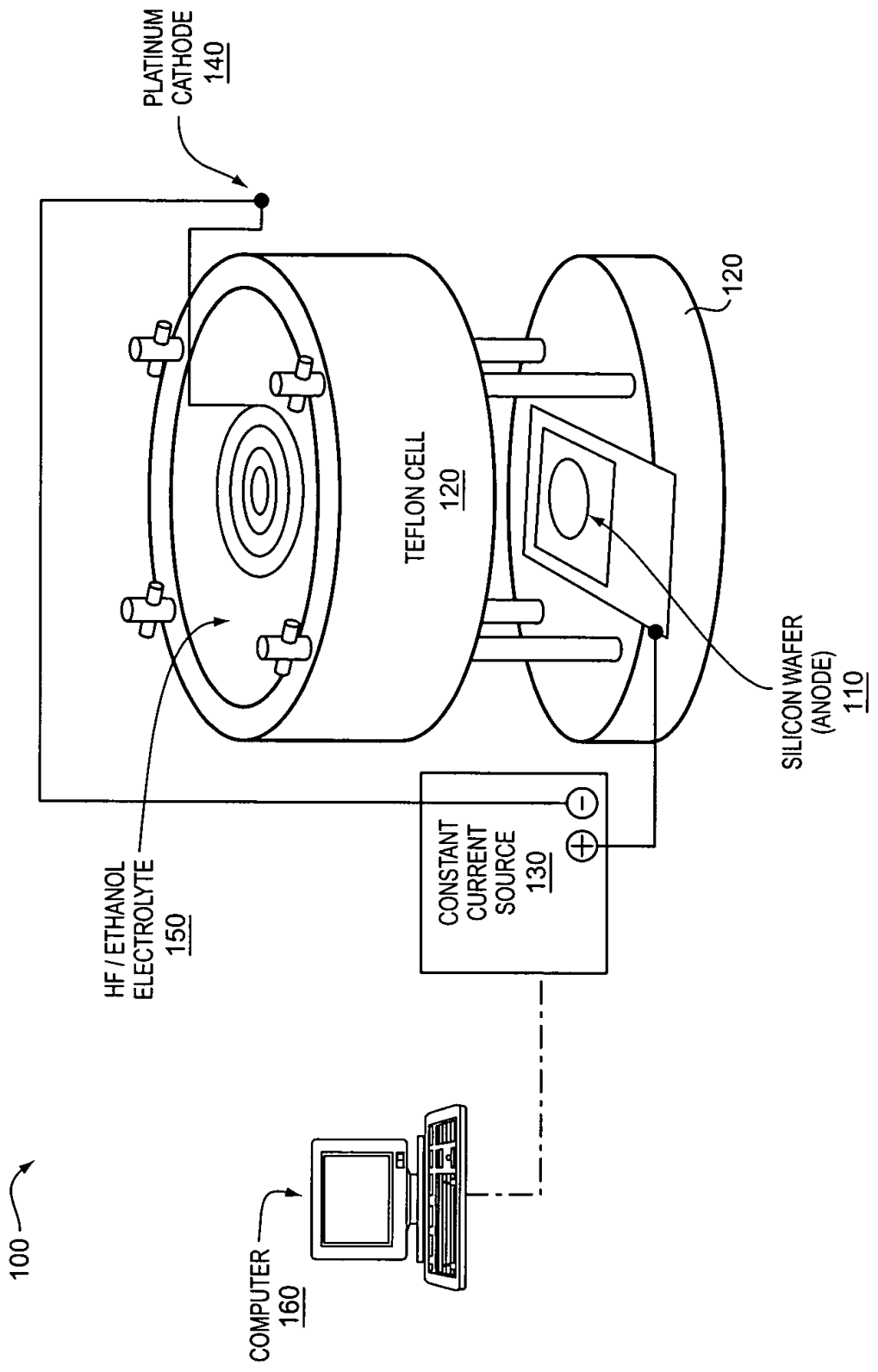

PLATINUM CATHODE 140
TEFLON CELL 120
120
SILICON WAFER (ANODE) 110
HF / ETHANOL ELECTROLYTE 150
CONSTANT CURRENT SOURCE 130
COMPUTER 160
100

FIG. 1

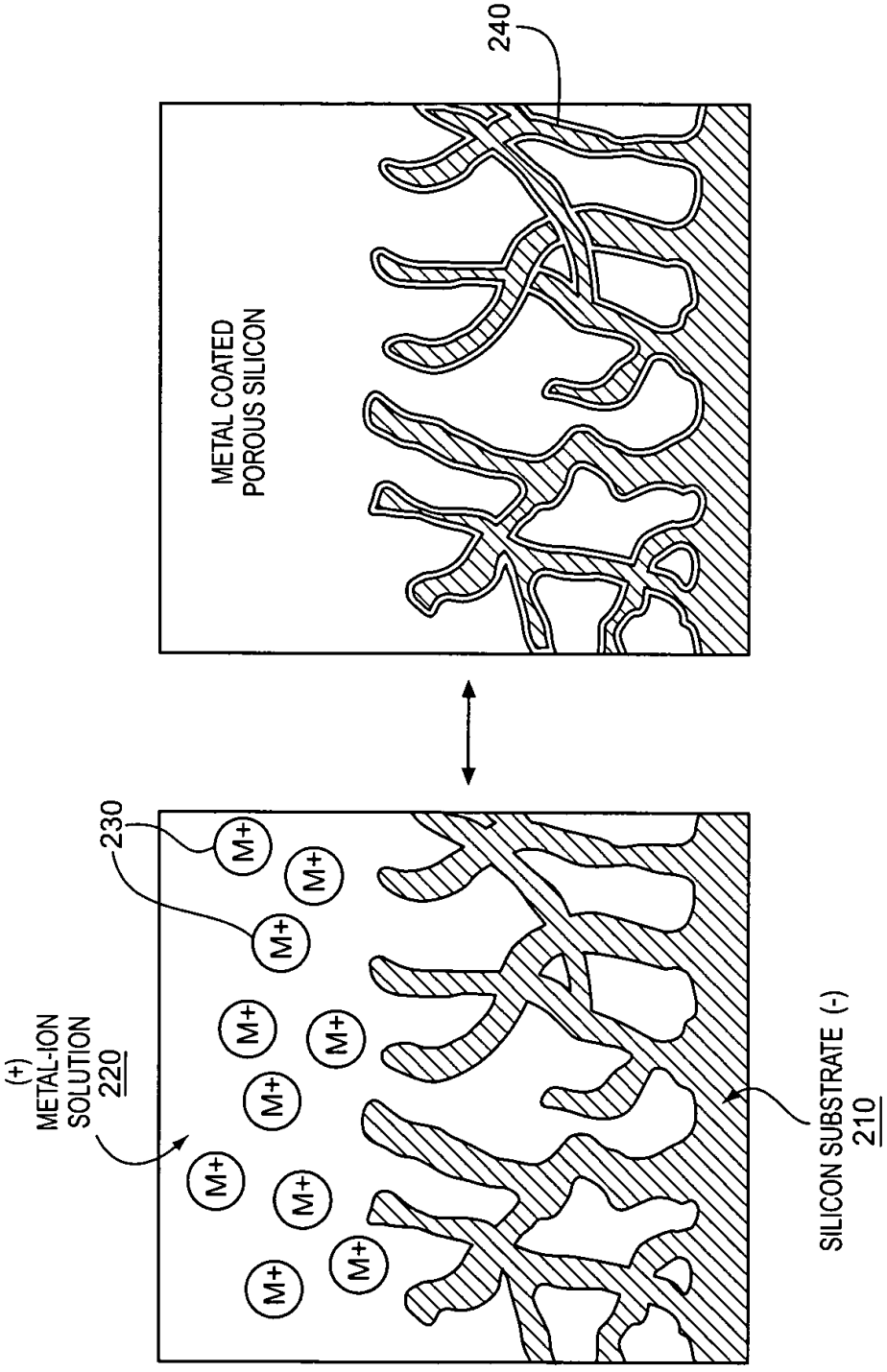

240
METAL COATED POROUS SILICON
230
M+
(+) METAL-ION SOLUTION 220
SILICON SUBSTRATE (-) 210

FIG. 2

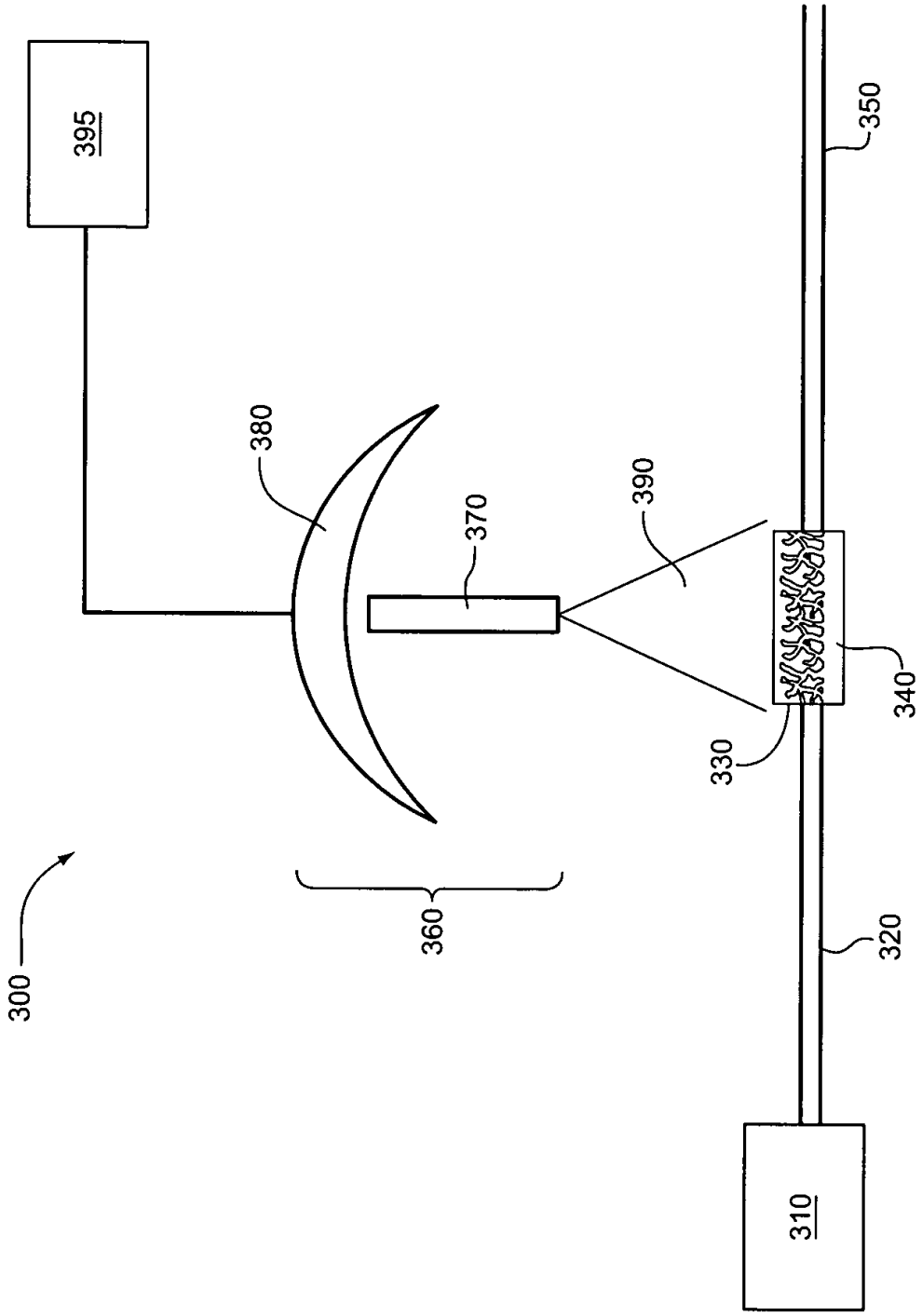


FIG. 3

FIG. 4

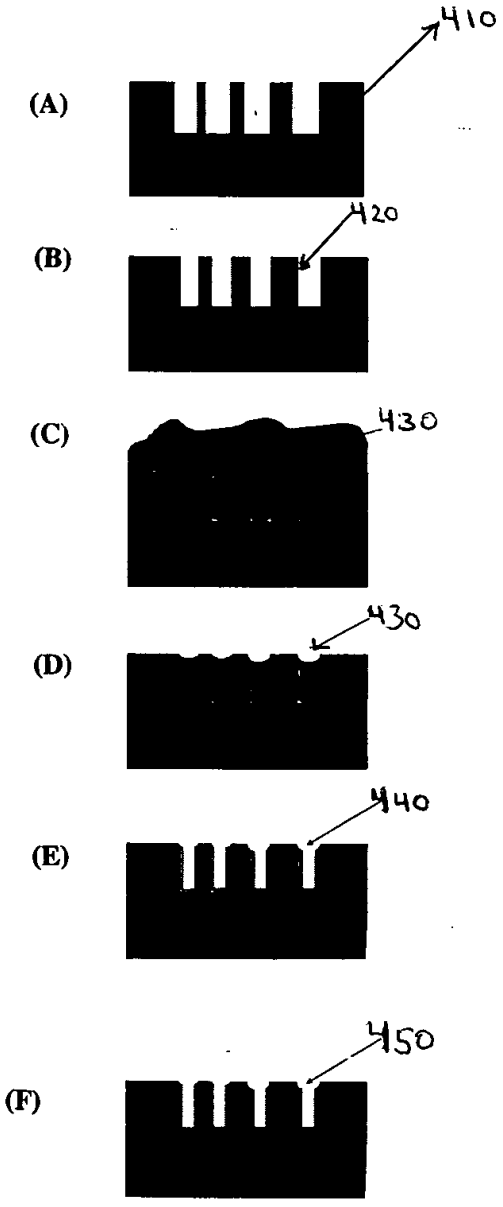


FIG. 5

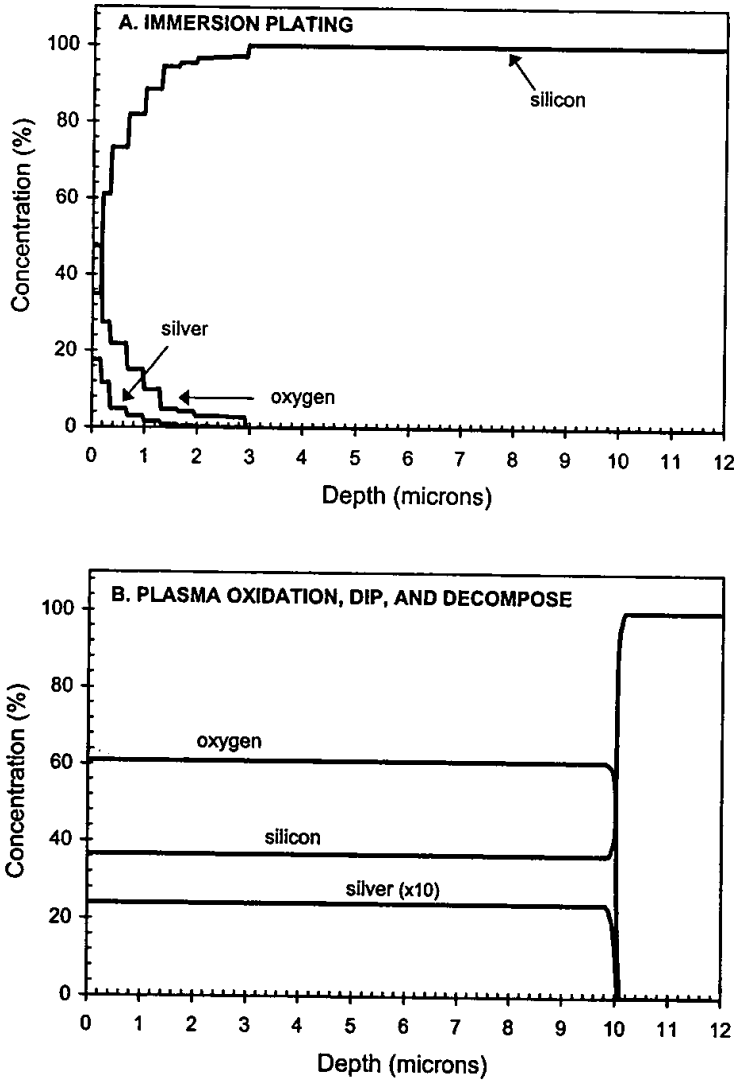
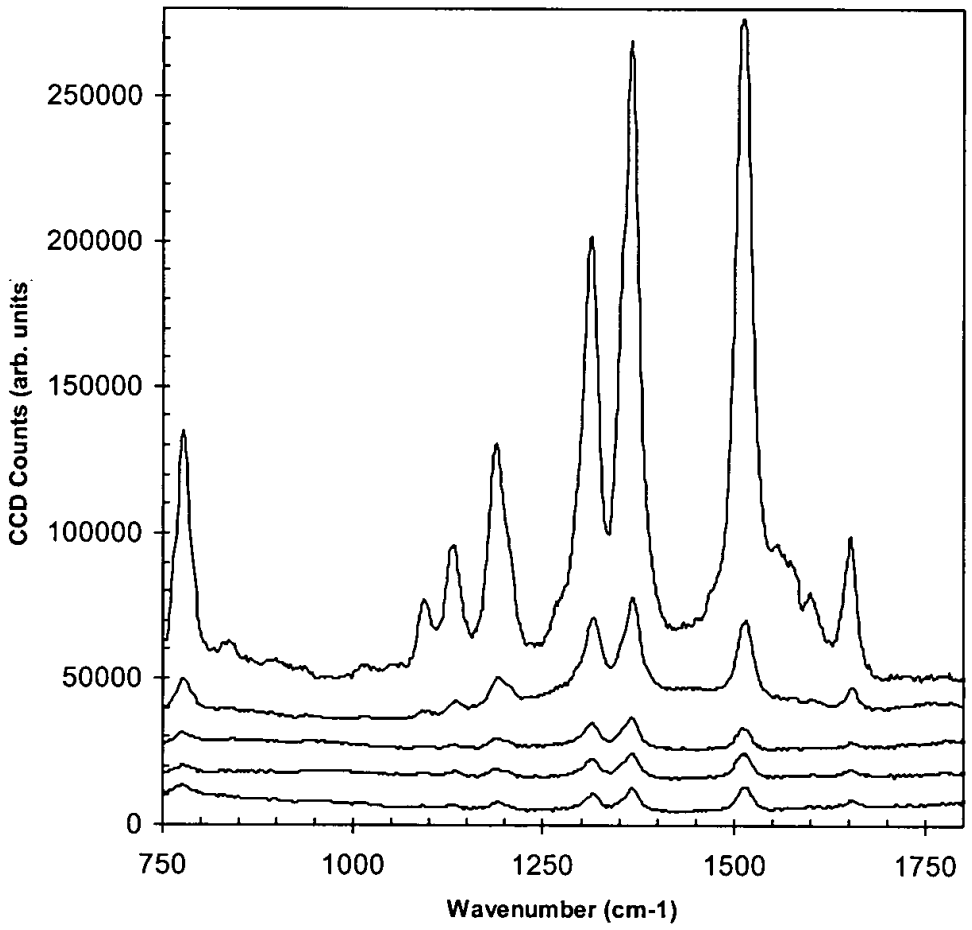

A. IMMERSION PLATING
Concentration (%)
Depth (microns)
silicon
silver
oxygen
B. PLASMA OXIDATION, DIP, AND DECOMPOSE
oxygen
silicon
silver (x10)

FIG. 6


250000
200000
150000
100000
50000
0
CCD Counts (arb. units)
750
1000
1250
1500
1750
Wavenumber (cm-1)

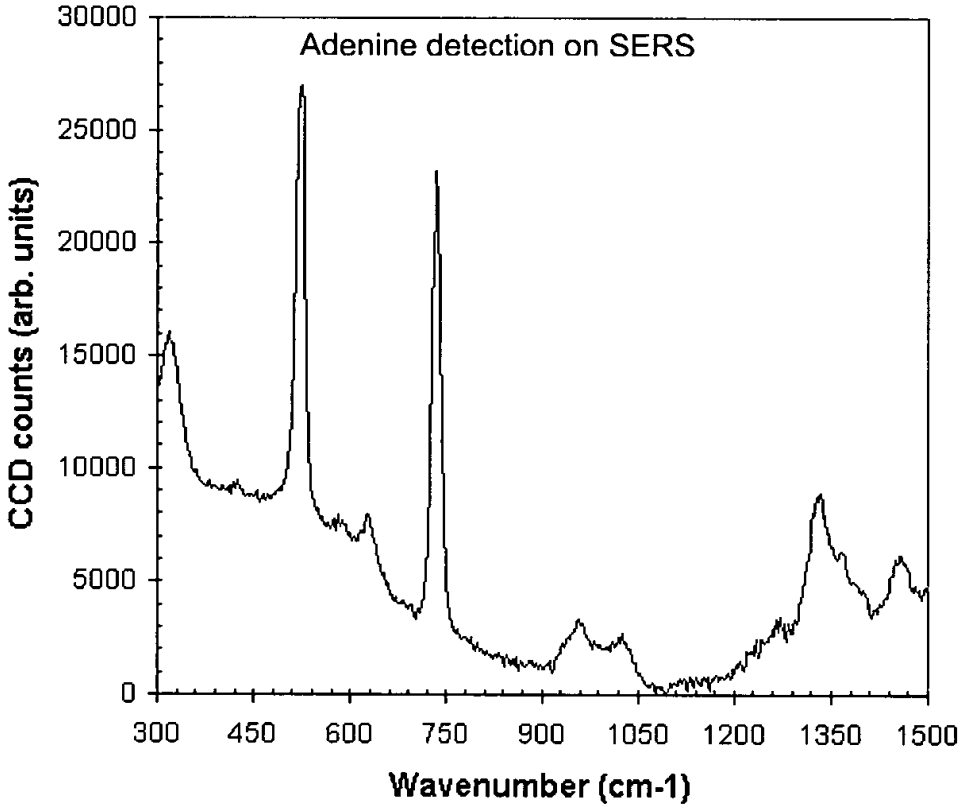
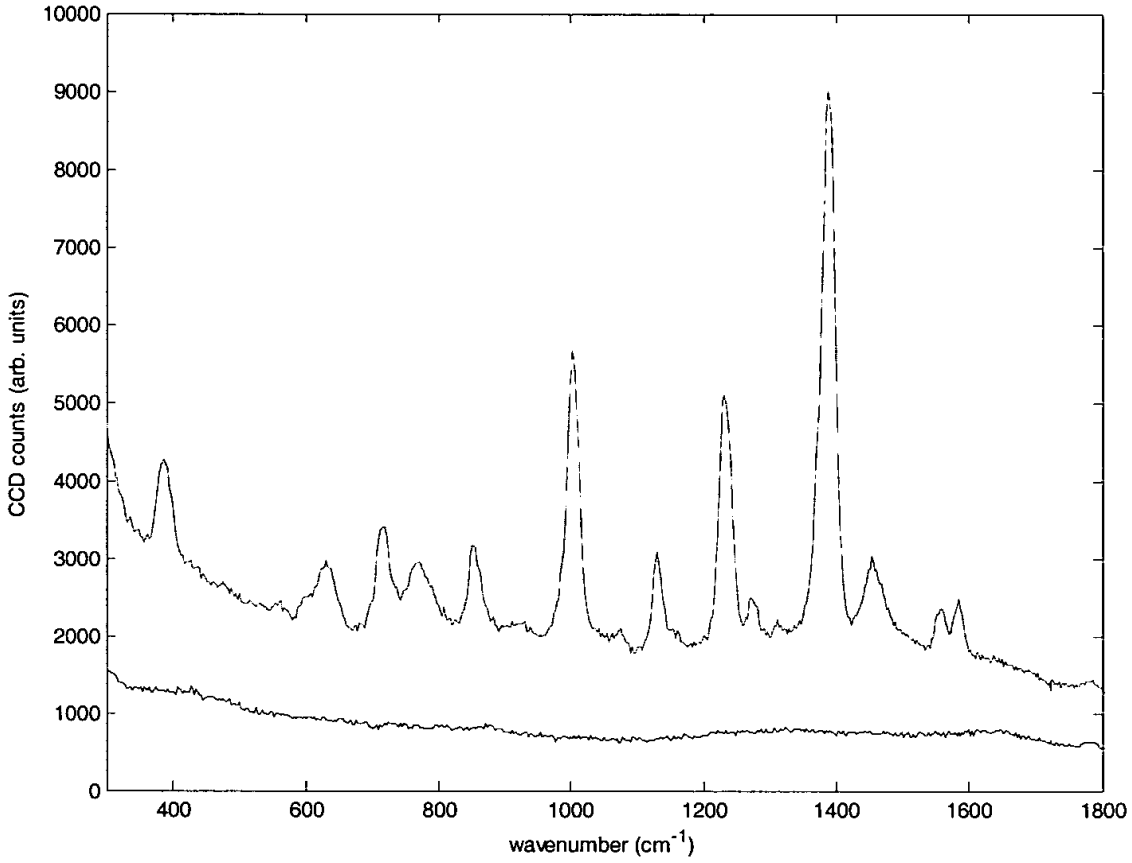

Adenine detection on SERS
CCD counts (arb. units)
30000
25000
20000
15000
10000
5000
0
300
450
600
750
900
1050
1200
1350
1500
Wavenumber (cm-1)

FIG. 7

FIG. 8


10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
CCD counts (arb. units)
400
600
800
1000
1200
1400
1600
1800
wavenumber (cm-1)